

REMARKS

Claims 1-54 remain pending in the application. Reconsideration is respectfully requested in light of the following remarks.

Objections to Specification:

The Examiner states that “Applicant’s use of the modal “may” in passim in the disclosure renders such disclosure confusing because it is not clear whether what is so modify actually takes place”. Applicants do not understand what the Examiner means by “whether what is so modify actually takes place”. Regardless, the use of “may” is extremely common in patent applications to distinguish, for example, between a mandatory case (i.e. “must”) and a permissive case. For example, in many instances a given action or event may or may not occur depending on numerous factors. Such instances are clearly and correctly described by use of “may”. There is no requirement in the statute or rules that an Applicant must limit the description of his invention to only those instances which must always occur. This type of usage of the term “may” is a well accepted standard in patent disclosure drafting. A search of the USPTO database of patents issued since 1976 reveals over 2.5 million issued patents that use the term “may” in their specifications, a quick spot check of which shows the term “may” to almost always be used in the permissive or modal sense. No one of ordinary skill in the art would be confused by the use of “may” in Applicants’ disclosure. Moreover, using a term other than “may” may change the substantive meaning of the disclosure and thus constitute an impermissible change.

The Examiner also states that Applicant’s use of “disk drive” instead of “disk” is confusing because “disk drive” is not data storage while “disk” is. However, Applicants note that any one of ordinary skill in the art readily understands that a “disk drive” is a device that includes one or more “disk” storage media. It is common parlance among those of ordinary skill in the art to refer to storing data on a “disk drive” with the implicit understanding that the data is actually stored on “disk”. Thus, Applicants assert that no

one of ordinary skill in the art would be in any way confused by Applicants' usage of the term "disk drive".

Section 103(a) Rejection:

The Office Action rejected claims 1-54 under 35 U.S.C. § 103(a) as being unpatentable over Applicants' Admitted Prior Art (hereinafter "AAPA") in view of Katz et al. (U.S. Patent 5,195,100) (hereinafter "Katz"). Applicants respectfully traverse.

Contrary to the Examiner's assertion, neither AAPA nor Katz, alone or in combination, teaches or suggests a storage array controller that is configured to issue a first scrubbing operation command to a first disk drive controller, wherein the first disk drive controller is configured to receive the first scrubbing operation command from the storage array controller and, in response to receiving the first scrubbing operation command, to read data from within a data range from at least one of the disk drives, to calculate a new checksum for the data, and to compare the new checksum to a preexisting checksum for the data. The Examiner states that AAPA substantially discloses array/disk controlling/scrubbing means. The Examiner is incorrect. There is no discussion of any type of scrubbing means in AAPA, certainly not at the disk controller level as opposed to an array controller or host. Furthermore, Katz does not describe a drive controller that is configured to receive a first scrubbing operation command from a storage array controller and, in response to receiving the first scrubbing operation command, to read data from within a data range from at least one of the disk drives, to calculate a new checksum for the data, and to compare the new checksum to a preexisting checksum for the data. The portions of Katz cited by the Examiner have nothing to do with scrubbing operations performed at the disk controller level.

Instead, Katz teaches a RAID controller, which upon initialization "scans each write in progress journal stored within nonvolatile memory" to determine whether any write operation was interrupted when power was lost. If a journal has not been erased, the controller "causes data blocks from those sectors to be read from disks 307 to the

RAID buffers 407 and then compares the time stamps from each data block with the expected value as read from nonvolatile memory 413” to determine whether data corruption occurred. Katz neither teaches nor suggests a disk drive controller configured to, in response to a scrubbing operation command from the storage array controller, determine whether data corruption has occurred in a segment of storage through the generation of a checksum, as presented in claim 1.

Neither Admitted Prior Art nor Katz taken either singly or in combination teaches or suggests a storage system as describe in claim 1. Therefore, the Applicants assert that claim 1 is patentably distinguishable over the cited prior art.

Applicants assert that independent claims 23 and 47 are patentably distinguishable over the cited prior art for reasons similar to those given above with regard to claim 1.

Furthermore, Applicants specifically traverse the rejection of each of the dependent claims. Applicants assert that the combination of features recited in each of the dependent claims is not taught or suggested by the cited art. The Examiner made no attempt to show how each specific combination of features recited in each dependent claim is taught or suggested by the cited art. Applicants remind the Examiner that the statute clearly places a burden of proof on the Examiner to show why each claim is anticipated or rendered obvious by the prior art. *In re Warner*, 154 USPQ 173, 177 (C.C.P.A. 1967), *cert. denied*, 389 U.S. 1057 (1968). The rejection of each dependent claim is improper since the Examiner has not demonstrated how the specific combination of features recited in each dependent claim is taught or suggested by the cited art. Applicants further assert that a careful review of AAPA and Katz does not reveal any teachings that would anticipate or rendered obvious any of Applicants’ dependent claims.

CONCLUSION

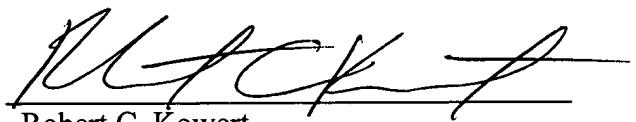
Applicants submit the application is in condition for allowance, and notice to that effect is respectfully requested.

If any extension of time (under 37 C.F.R. § 1.136) is necessary to prevent the above referenced application from becoming abandoned, Applicants hereby petition for such extension. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5181-80501/RCK.

Also enclosed herewith are the following items:

- ☒ Return Receipt Postcard
- ☐ Petition for Extension of Time
- ☐ Notice of Change of Address
- ☐ Fee Authorization Form authorizing a deposit account debit in the amount of \$
for fees ().
- ☐ Other:

Respectfully submitted,



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